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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/162,103	09/28/98	WINKLER D	2935/PDC/ICT

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EXAMINER	
FERNANDEZ,K	
ART UNIT	PAPER NUMBER
2881	

DATE MAILED: 06/12/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No.	Applicant(s)	
	09/162,103	WINKLER ET AL.	
	Examiner	Art Unit	
	Kalimah Fernandez	2881	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09-28-99* is/are objected to by the Examiner.

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15)☐ Notice of References Cited (PTO-892)
16)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
17)☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
18)☐ Interview Summary (PTO-413) Paper No(s). _____ .
19)☐ Notice of Informal Patent Application (PTO-152)
20)☐ Other: .

DETAILED ACTION

Drawings

1. New formal drawings are required in this application because submitted drawing do not comply with established guidelines. Applicant is advised to employ the services of a competent patent draftsperson outside the Office, as the Patent and Trademark Office no longer prepares new drawings.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1,4, and 7-11 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over US Pat No. 5786601 issued to Sturrock. Sturrock discloses all the elements of said claims. For the detailed explanation, applicant is directed to office action mailed on 1-12-01.

In consideration of applicant's arguments the recitation of a minicolumn, which applicant maintains is smaller than a conventional electron column is not an element of Sturrock. However, this limitation is not in applicant's claims nor is the intended size of said minicolumn clearly defined in the specification. Nevertheless, the size of the electron column is not a distinguishable limitation and is considered obvious to one having ordinary skills in the art.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 2-3, and 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sturrock, in view of US Pat No.5376792 issued to Schamber et al. For details, please refer to previous office action.

6. Likewise, claims 12-26 are rejected under 35 U.S.C 103(a) as being unpatentable over Sturrock, whereas the details of the rejection were provided in the previous action mailed on 1-12-01.

Response to Arguments

7. Applicant's arguments filed 4/18/01 have been fully considered but they are not persuasive. Applicant raised several issues in his response. Namely, applicant agues the following points:

a. Applicant contends that cited prior art (Sturrock) teaches a conventional electron column not a minicolumn as claimed. Applicant contends that "Sturrock is silent as to dimensions per se" and " the location of the disclosed column relative to other structure points toward a column of conventional size, rather than toward a minicolumn". Further, applicant maintain that Sturrock's teachings are contrary to applicant's recitation, because as applicant states on page 3, line10 of the response "In this case, size does matter".

b. Prior art (Sturrock) does not disclose any mini-environment, rather Sturrock teaches both the e-beam column and inspection chamber are evacuated by the same vacuum.

c. Applicant states that Sturrock fails to disclose the recited feature of the minicolumn being within the main/ inspection chamber. Thereby, according to applicant Sturrock teaches away from placing the electron beam source within a separate chamber in the main chamber.

d. Applicant asserts that in regards to claims 2-3 and 5-6, no motivation to combine the cited prior art existed, since the references are directed to different aspects of electron microscopy. Further applicant declared there exist no desirability to combine cited art.

e. Finally, applicant argues that a turntable stage and a x-y stage are not equivalent.

8. In response to applicant's argument, the issue of electron column as taught by Sturrock compared to the claimed minicolumn seems to be the larger matter in applicant's view. The recitation of minicolumn as defined in applicant's response is nowhere disclosed in the specification of the applicant. If applicant intended a specific definition of minicolumn, which would not include a conventional electron column, applicant should have stated such intentions clearly in his disclosure.

9. Furthermore, the difference asserted by applicant between the conventional electron beam column and his recitation of a minicolumn is **size**. Namely, Sturrock's electron column has all the elements of a minicolumn as recited, but is larger.

10. Such a argument has not merit and applicant is referred to Gardner v. TEC Systems, Inc., 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984). In which, the Federal Circuit held that, where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device.

11. In addition, a showing of the meritlessness of such an argument is advanced by applicant 's response received on 10/30/00, in which it is stated,

> "the Examiner asserts that the dimensions for the specimen chamber or minienvironmental housing are not disclosed. Applicants note first that the Burstert and Bubeck articles are referred to in the specification (top of page 3) for additional details of the minicolumn, beyond

the dimensional ranges for the lens structure described an page 2 of the specification. Further, the justmentioned Chang article, as well as USP 5,155,412 and 5,122,663 **teach the sizing of columns for electron microscopes**, the `412 and `663 patents talking inter alia about compact electron optics which are used in electron microscope columns."

12. Applicant, further, asserts

"with respect to the dimensions of the specimen chamber relative to the dimensions of the minienvironment and minicolumn, it is believed abundantly clear that the ordinarily skilled artisan, seeking to implement the teachings of the present application, would apply not only an ordinarily skilled artisan's abilities, but also **common sense**. There would have to be room for tilt, or for suitable detector placement (the above-mentioned Chang article showing examples of detector placement within the column). Looking at the "common sense" point a little more closely, SEMs and TEMs, for example, have columns of known sizes. **The dimensions of the invention obviously would be selected with consideration given to the type and size of the objects to be inspected**, the mechanisms contained within the vacuum chamber to transfer the specimen from the load lock to the stage, the mechanisms contained within the chamber to move the stage in an x-y plane such that the entire specimen may be examined, mechanisms contained within the chamber to move (for example) the isolation valve 450 shown in Figures 4A and 4B, and the mechanisms contained within the chamber to tilt minicolumns or to pivot arms for mounting minicolumns.
From the foregoing, Applicants believe that it is apparent that considerations such as fitting the minicolumn into either an SEM or a TEM (depending an the detector); provision of a load lock mechanism to facilitate insertion and removal of samples without breaking vacuum in the minicolumn; and **dimensions of the minicolumn all are within the abilities of the ordinarily skilled artisan**. In light of the knowledge and abilities of the ordinarily skilled artisan, as evidenced inter alia in the articles and patents referred to in the specification and above".

13. In view of applicant's admissions, it is deemed that the dimensions (or size) of said minicolumn is within the abilities of the ordinary skilled artisan.

14. As per the assertion that Sturrock fails to disclose a minienvironment capable of being evacuated by different vacuum. Such a statement is seemly capricious, since applicant recites in his specification on page 6, lines10-13, that the ability to interchange one vacuum or two separate vacuum is within the scope of his invention. If the teaching of both chambers being evacuated by the same vacuum pump is contrary to applicant's invention why is it recited as a feature?

15. Furthermore, the fact that Sturrock does not include the separate evacuation of the chambers does not make applicant's invention, as defined by his claims, patentable over Sturrock. Applicant's reliance on limitations not stated in the claims and in light of his specification disclosing that either separate or whole evacuation is permissible, renders his argument unpersuasive and unfounded.

16. As per the argument that the limitation of the minicolumn being "within" in the main chamber is not taught or suggests by Sturrock. Again, applicant contradicts his own argument, since applicant holds that the Sturrock's teaching does not separate the mini-column/ -environment from the main chamber. If this argument is true than wouldn't the electron column as taught by Sturrock be "within" the main chamber?

17. Now, in regards to claims 2-3 and 5-6, applicant contends no desirability to combine the cited reference. It is recognized that references cannot be arbitrarily combined, rather references are evaluated by what they suggest to one versed in the art. As stated in the previous office action, adjustability is not considered a patentable advance and the desirability of such an advance is illustrated by Schamber's disclosure

of the art-recognized problem involving time-consuming maintenance (see action mailed on 1-12-01).

18. Finally, the argument that a x-y stage and a turntable stage are not art-recognized equivalent is not sufficient to overcome stated rejection. Specifically, applicant's arguments amount to designer's choice considerations. A skilled artisan would have known to use a turntable stage if he/she desired a continuous movement when scanning a sample. Further, applicant relies on functional limitation (i.e. continuous scanning) which is not recited in the claims or the specification, if applicant contends continuous scanning to be an important aspect of his invention the limitation should have been disclosed.

19. In addition, the recitation of plurality of minicolumn is considered merely duplication of essential parts and applicant's argument is not persuasive in view of the size argument being unfounded. Namely, changing the size of Sturrock's electron column is not novel nor is adding more than one column.

20. In summary, applicant contends that the different between Sturrock's invention and the claimed invention is size. Although, applicant fails to define the dimension of said claimed minicolumn, such a distinction is neither novel nor distinguishably patentable over Sturrock.

Conclusion

21. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kalimah Fernandez whose telephone number is 703-305-6310. The examiner can normally be reached on Mon-Fri between 7:00am-3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Teresa Arroyo can be reached on 703-308-4782. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

kf
June 8, 2001

Jack Berman

JACK BERMAN
PRIMARY EXAMINER